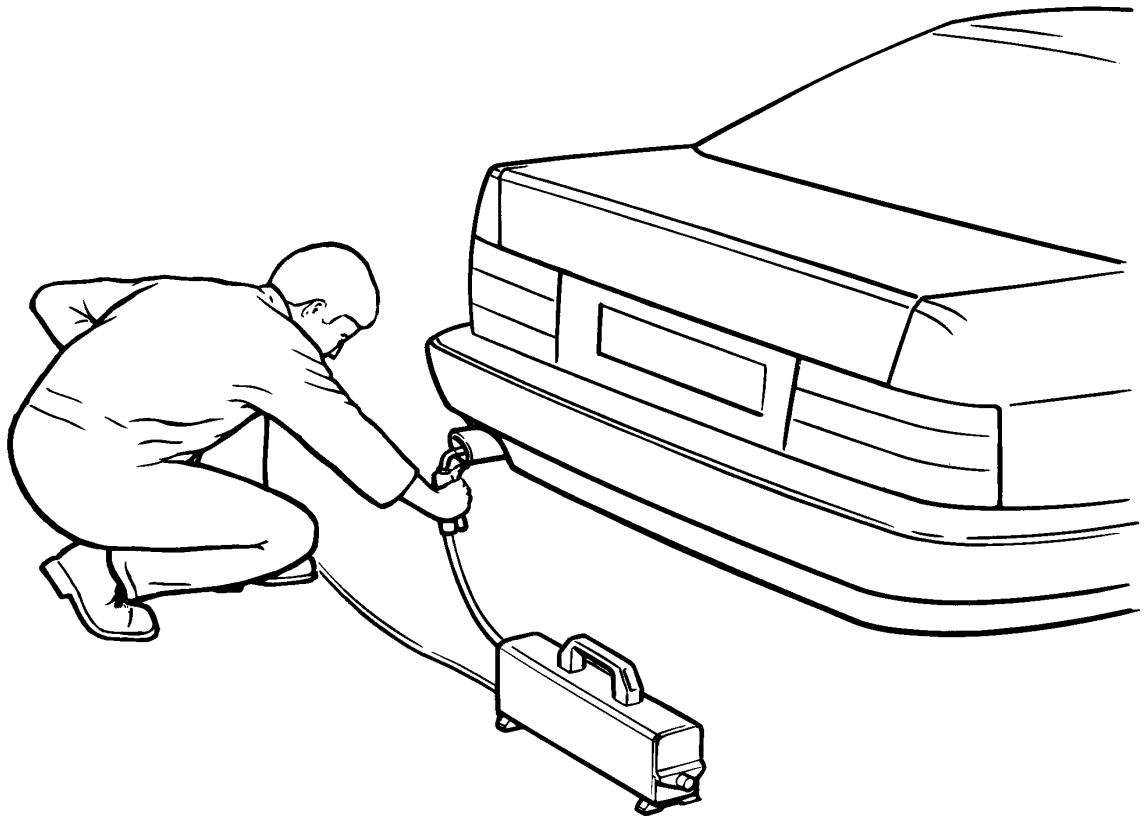


DIESELTUNE



DX250 SMOKEMETER PROGRAM UK MOT 2002

OPERATING INSTRUCTIONS

IN2038

IMPORTANT

Every reasonable effort has been made to ensure that information within these Operating Instructions is correct at the time of release, but Dieseltune Technology Ltd. cannot accept-responsibility for any errors that may occur.

E. & O. E.

The information in these Operating Instructions is subject to change without notice, and does not represent a commitment on the part of Dieseltune.

Service & Warranty

The reliability of this equipment is fully supported by our service agents, with repair workshops and field service engineers to provide a full range of After-Sales Care, including installation, contract maintenance, factory overhaul and emergency repairs on site. Please refer to the page at the end of this manual for full details.

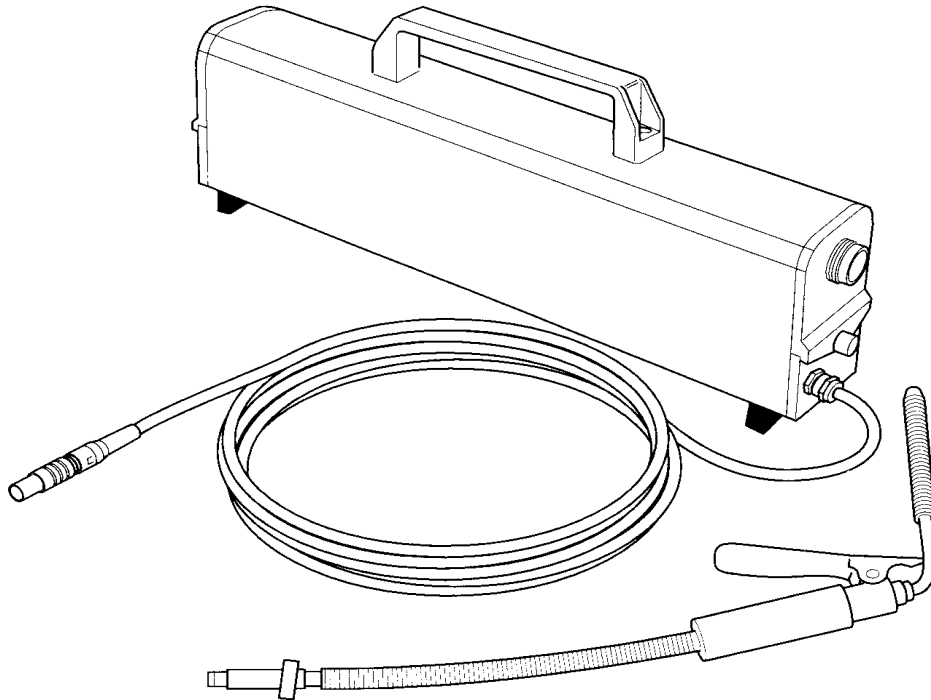
Note:

Your attention is drawn to our Terms & Conditions of Sale. If a service engineer is called out. under service warranty where, upon inspection and test the equipment is found to be in full working order and no fault found, the user is liable to be charged the cost incurred for this call out. Before calling out an engineer, ensure your equipment is faulty by checking its operation, particularly mains supply and fault codes/self test if applicable.

WARNING:

Do not attempt to operate this equipment unless you have read and understood these instructions.

DX250 SMOKEMETER



SPECIFICATION

Dieseltune Technology Ltd. has a programme of continued product development and therefore reserves the right to amend product specifications without prior notice. While every effort is made to ensure the accuracy of the particulars contained in this instruction book, the Manufacturers and the Authors shall not in any circumstances be held liable for any inaccuracy or the consequences thereof.

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PATENTS

These products are covered by one or more of the following Patents or Patent Applications: GB - 2257515, 2268805. EU - 0521725, 0650586.
US - 5353629, 5596155

M.O.T. TESTING

The DX250 Diesel Smokemeter, when used with the software described in this manual, is approved by the Vehicle Inspectorate Executive Agency for M.O.T. testing of the following classes of vehicle:

Category A Cars, Light Commercial Vehicles and Private Buses
(M.O.T. classes 4, 5 and 7)

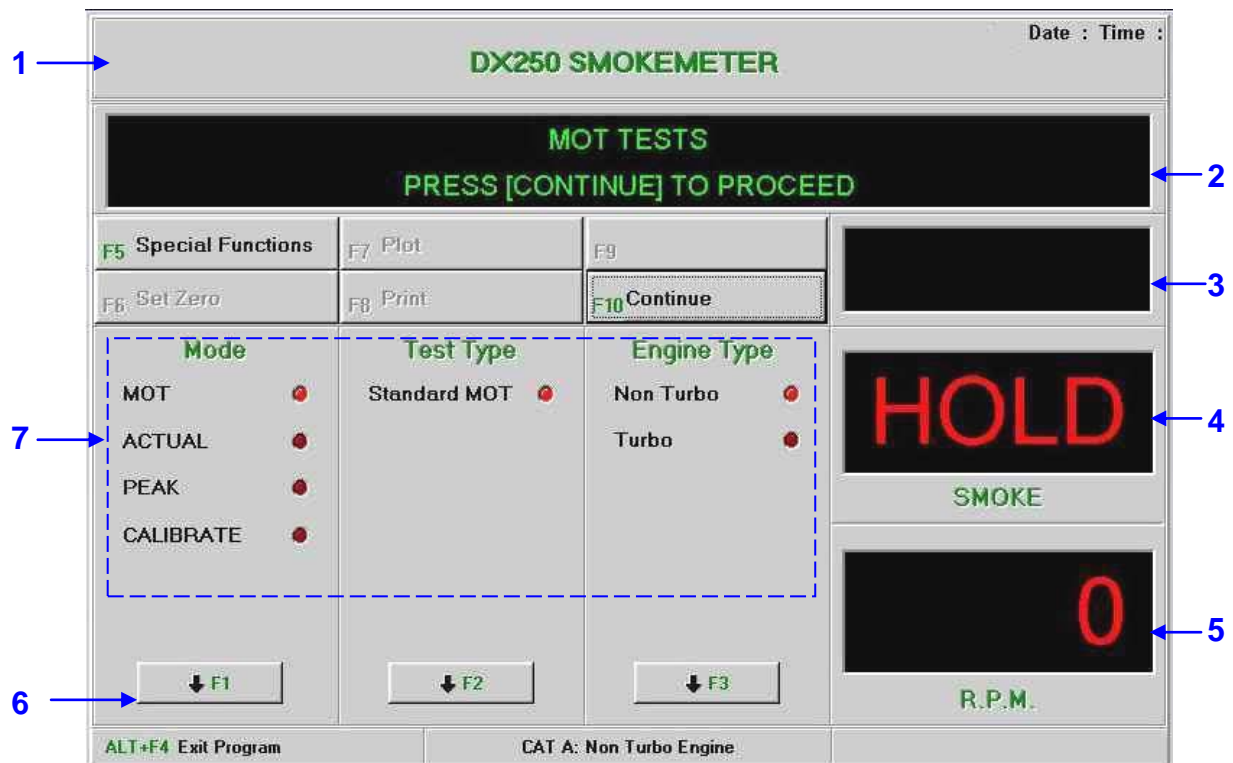
Category B Public Service Vehicles, Heavy Goods Vehicles

CONTENTS

	Page
COMPUTER DISPLAY	6
START UP / SHUT DOWN PROCEDURE.....	8
M.O.T. TEST PROCEDURE.....	10
OTHER TEST MODES	
Actual mode.....	19
Peak mode.....	20
CALIBRATION	
Vehicle Inspectorate calibration checks.....	21
Automatic calibration check.....	21
SPECIAL FUNCTIONS	
Garage name and address.....	22
System data.....	22
PLOT.....	23
CONVERSION CHART.....	24

NOTE: This manual only describes the software controlled procedures.
 For all other information please refer to the DX250 Smokemeter
 'Operators Manual'.

COMPUTER DISPLAY



1. Program title (with software version Number)
2. Instruction Text box.
3. Ready box.
4. Display box (Prompts, Smoke and Oil temperature values).
5. Engine Speed values
6. Function buttons
The function keys on the keyboard (F1 to F10) control the function buttons on the display as follows:
 - F1 To select test type.
 - F2 To select test units.
 - F3 To select engine type.
 - F4 To exit program (use with 'ALT').
 - F5 To select 'Special Functions'.
 - F6 To select 'Set Zero' (force an automatic calibration).
 - F7 To select 'Plot'
 - F8 To select 'Print'
 - F9 To select 'Low Smoke Test' (See M.O.T. test procedure, note D)
 - F10 To continue

7. Three selection panels to allow choice of MOT type, Test type and Engine type during MOT tests.

Press F1 to select the required test type:

MOT.	Start an MOT test
ACTUAL	Continuous or dynamometer testing.
PEAK	Single acceleration test.
CALIBRATION	This area is only accessible by a UKAS engineer and is used for Annual calibration and clock resetting.

Once an MOT test has been confirmed by pressing F10, the F1 key is used to select test type A (Class IV & VII) or type B (PSV/HGV)

Press F2 to select the required test type for MOT or units for live readings

If MOT type A or CALIBRATE is selected F2 has no function

If MOT type B is selected then F2 is used to select a standard or RPC type test

If Actual or Peak readings are selected then F2 can be used to define the units that the smoke value will be displayed in as follows:

km ⁻¹	Coefficient of Light absorption, with temperature correction to 100°C.
HSU	Hartridge Smoke Units (i.e. equivalent to an optical path length of 0.43 m), with temperature correction to 100°C.
FSN *	Filter Smoke Number (Bosch or Bacharach scale), with temperature correction to 100°C.
mg/m ³ *	Milligrams of soot per cubic metre of exhaust gas, with temperature correction to 100°C.
Cal %	is forced when calibration section is entered, it cannot be selected from the live readings. The display is opacity % for this Smokemeter (i.e. Optical Path Length = 0,25 m) not corrected for temperature. Used by UKAS engineer for calibration only.

* Scale range 0-6.22 FSN and 0-844 mg/m³ If scale range is exceeded, display box will show 'OVER'.

Press F3 to select type of vehicle to be tested in MOT tests only:

Non turbo	Selects pass/fail limit for non turbo vehicles.
Turbo	Selects pass/fail limit for turbo vehicles.

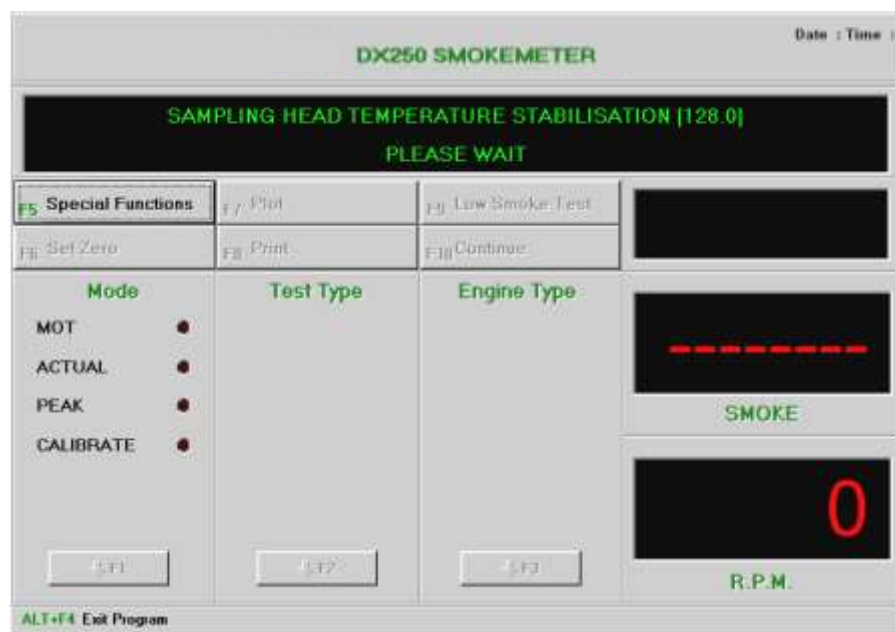
START UP / SHUT DOWN PROCEDURE

NOTE: The following instructions assume that the Smokemeter software has already been installed on the computer using the instructions supplied with the software, and that the user is familiar with the operation of Windows 95 / 98.

START UP PROCEDURE

Connect the equipment as described in the DX250 'Operators Manual'.

1. To start the Smokemeter programme:
 Start Windows 95 / 98.
 Select the 'DX250' icon.
 If the 'DX250' icon is not shown:
 - Select 'Start Menu'.
 - Select 'Programs'.
 - Select Smokemeter.
 - Select 'DX250'.
2. The Smokemeter display will now be built up in a series of stages until the Instruction Text box displays:
 SAMPLING HEAD, TEMPERATURE STABILISATION []
 PLEASE WAIT as follows:



The number inside the brackets [] is an indication of the temperature of the sampling head. It should stabilise at approximately 128 after 5 to 20 minutes, dependent on ambient conditions.

The Instruction Text box will then display: CALIBRATION CHECK

PLEASE WAIT

The Smokemeter now carries out an automatic calibration check (see section 'Calibration' for details). Once complete the following screen is displayed:



If an equipment fault is detected, the appropriate message will appear in the Instruction Text box.

SHUT DOWN PROCEDURE

Press ALT and key F4 simultaneously.

'Close Program ? Yes / No' box will appear. Select 'Yes'.

IMPORTANT: Follow the correct Windows 95 / 98 shut down procedure before turning the computer off. **NOTE:** If the program does not respond to ALT + F4, refer to Windows 95/98 operating instructions and use keys CTRL + ALT + DEL simultaneously.

SHUT DOWN PROCEDURE

Press ALT and key F4 simultaneously.

A 'Close Program? - Yes/No' box will appear. Select 'Yes'

IMPORTANT: Follow the correct Windows 95/98 shut down procedure before turning the computer off. **NOTE:** If the program does not respond to ALT + F4, refer to Windows 95/98 operating instructions and use keys CTRL + ALT + DEL simultaneously.

M.O.T. TEST PROCEDURE

The operator's 'smart card' should be inserted into the VI serial communications device before the MOT test type is selected.

The engine must be at normal operating temperature before performing the test, either apply the test immediately the vehicle is presented or warm up thoroughly before testing.

WARNINGS:



- If carrying out tests in a workshop the area should be well ventilated. Alternatively, outdoor testing is permissible (see 'Outdoor Testing' in the 'DX250 Operators Manual').
- Ensure that the vehicle is parked on level ground with handbrake applied and gear lever in neutral or park position.
- Turbocharged engines should be allowed to idle for 10 to 15 seconds before switching off to ensure maximum turbocharger life.



It is recommended that prior to carrying out the M.O.T. test the engine speed governor is checked as follows:

Fit the engine speed adaptor (see section 'Engine Speed Adaptors' in the DX250 'Operators Manual').

SLOWLY raise the engine speed and check that the engine manufacturer's maximum speed cannot be exceeded.

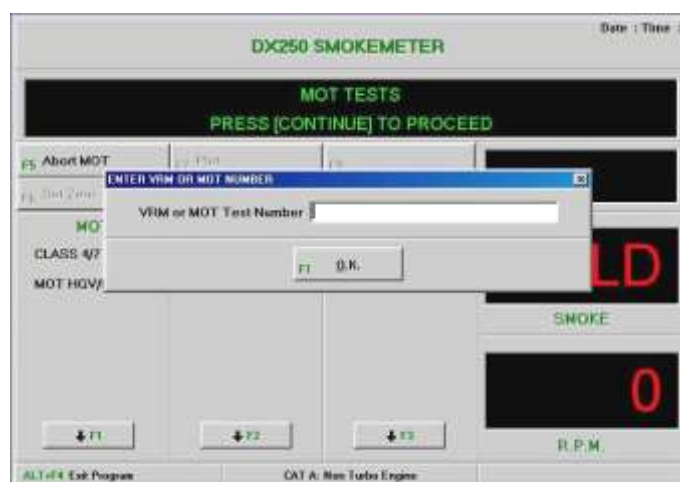
Do not proceed further if the engine speed exceeds the manufacturers specified maximum governor speed.

SELECT MOT TEST AND ENGINE TYPE

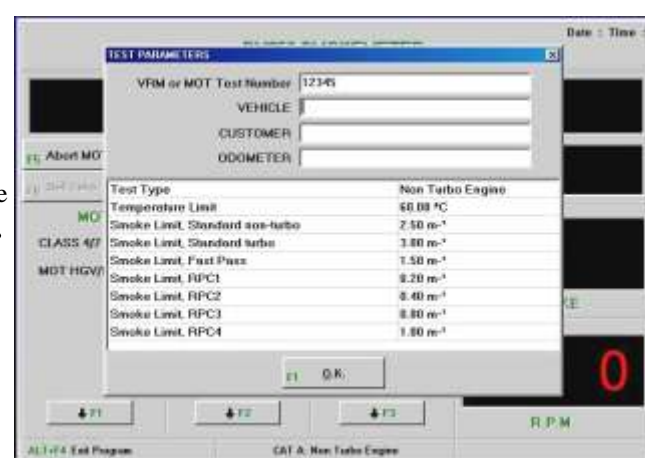
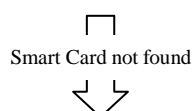
The equipment should be fully warmed up and have passed the initial calibration check . The following screen should be displayed:



Select F10 (Continue) to proceed to Smart Card interrogation mode.



The vehicle registration mark or MOT test number should be entered at this stage. Press F1 to continue.



NOTE: If the smoke test is carried out without a serviceable Smart Card reader and appropriate Smart Card present, then 'Ignore' button should be selected and vehicle data such as vehicle type, mileage and customer details entered manually.

Press F1 to confirm Smart Card details and parameters and this screen will be displayed:



Note the illuminated selection buttons, if the required test is CLASS 4/7 then simply use F3 to select the correct engine type (turbo or not) and then F10 to proceed to the next screen.

To select an HGV/PSV test, press F1 and the following screen will be displayed that allows selection of RPC test if required:



If an RPC test is required, press F2 to select the appropriate limits

Press F3 to select the correct engine type.

Check that the text instruction box displays the required test or reselect as necessary and once correct, press F10 to proceed.

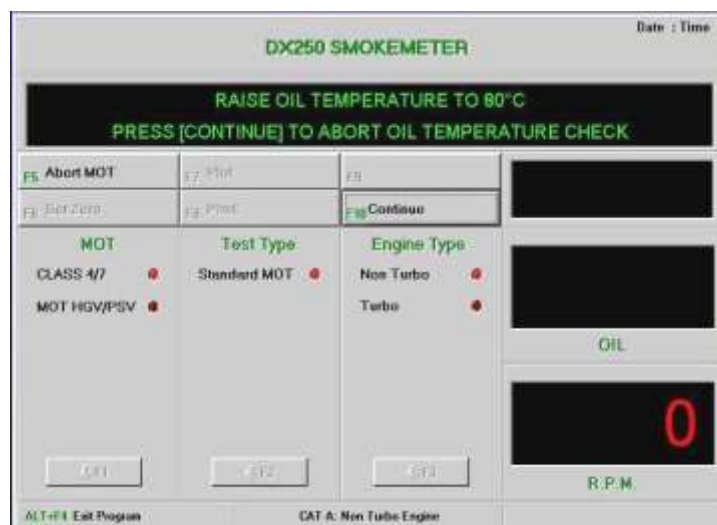
Provided all is well the screen will display the complete test selection to be used for this MOT test. Check the details are correct and either press F10 to proceed as defined or ABORT and redefine the test if incorrect. The test can be aborted at any time.

OIL TEMPERATURE – only applicable to CLASS 4/7

The following screen is displayed to indicate that the oil temperature probe should be inserted into the engine. **Ensure that the moveable stop is adjusted to make the probe the same length as the dipstick and that the engine is stationary before inserting probe.**



Press F10 once probe is securely in the engine and the temperature monitoring screens will be displayed:



If the oil temperature probe is not connected the display will show - - - .

Wait until the oil temp reading is above the quoted limit and then press F10 to continue the test.

If the continue button is pressed and the temperature cannot be measured or the measured temperature is below the defined limit, a 40 second wait period is started. When not using the oil temperature probe, use other means to verify the engine temperature. This should be at least 60°C before testing starts but do not accept a FAIL result at this temperature. Raise the engine temperature to at least 80°C and retest before accepting a FAIL result.

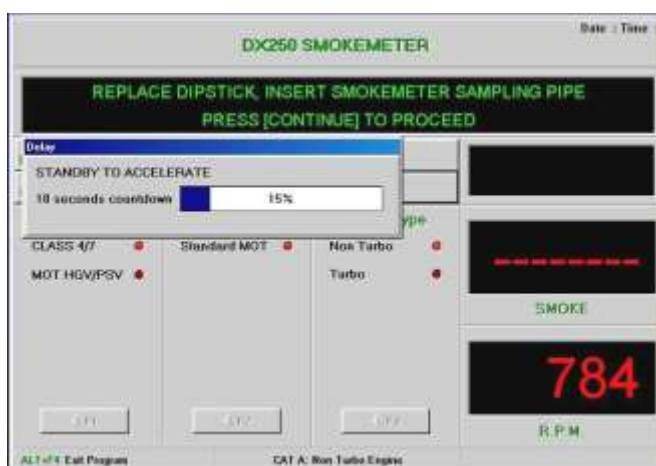
After the countdown the program will proceed to the initial calibration check. The span and zero results from this calibration are stored and compared to results from a similar check performed after the MOT test is complete. In this way the equipment can assess whether MOT test result is valid or that the lenses inside the smokemeter have been clouded to too great an extent during the test.

Wait for the calibration to finish and the screen will then give the following instruction to replace the dipstick in the engine and insert the smoke measuring probe into the exhaust:



Use the appropriate probe for exhaust arrangement on the vehicle under test and ensure the probe is firmly clamped in place.

Press F10 (Continue) to proceed to the first Free Acceleration test and the screen will change to the following 10 second countdown mode:



Follow the screen instructions to open the throttle wide and hold:



The 'READY' screen indicates that the equipment is waiting for a smoke sample to measure. Open the throttle to full fuel as described in the MOT Tester's Manual and wait until the engine reaches governor speed then release the pedal when instructed.



When the countdown is complete the 'READY' screen will be displayed and another acceleration should be performed.

Note: The current peak smoke reading will appear for a few seconds and then be replaced with (- - -) indicating that an average of three peak readings is not available. Once three accelerations have been performed the rolling average of the last three peaks is displayed during countdown.

Provided the HGV/PSV RPC test has not been selected the MOT test will end after ONE acceleration if the smoke reading is below the Fast Pass limit.

If the first smoke peak is above the Fast Pass limit further accelerations will be requested. After three accelerations have been completed the rolling average is compared to the pass/fail limit. If it is below the limit the test ends with a pass result. If above, another acceleration is requested and the rolling average recalculated and checked again. This goes on until six accelerations have

been performed and the test will end then even if the average is above the limit.

Once the acceleration cycles are complete, the screen will give instructions to remove the sample probe:

DX250 SMOKEMETER			Date : Time :
<p>TEST COMPLETED, REMOVE SAMPLING PIPE PRESS [CONTINUE] TO PROCEED</p>			
F5 Abort MOT	F7 Plot	F9	
F6 Set Zero	F8 Print	F10 Continue	
<p>MOT</p> <p>CLASS 4/7 ●</p> <p>MOT HGV/PSV ●</p>	<p>Test Type</p> <p>Standard MOT ●</p>	<p>Engine Type</p> <p>Non Turbo ●</p> <p>Turbo ●</p>	<p>0.93</p> <p>AVERAGE</p>
<p>824</p> <p>R.P.M.</p>			
ALT+F4 Exit Program	CAT A: Non Turbo Engine		

Switch off the engine and carefully remove the sample pipe from the exhaust and position the smokehead in clean air. Press F10 when complete.

Note: It is important to put the smokehead in clean air as a drift test will be performed and whole MOT test aborted if the zero smoke reading has changes too much.

Beware of high temperatures when handling the smoke probe as both it and the exhaust system may be at a high temperature after the test.

Once the F10 button is pressed, a window will appear on the screen asking if a printout is required. Normally this is the case so press F5 when this screen appears:



Further printouts can then be obtained by selecting F8:



Press the F10 key to end the test and return to the test selection page.

ABORTING A TEST

The F5 key will abort the test at any time if it is necessary to terminate an M.O.T. test before completion. Operation of F5 may be restricted if an extra control panel has been displayed – either exit this panel or wait for a time-out then press F5 to end the

current test. Any results previously recorded will be lost and the test must be re-started from the beginning.

Test Print-out - The following is a typical Pass print out.

DX250 Smokemeter [1.1.0.0]		(Date & Time)	
VTS: 1234567890			
Anyone Garage Company Ltd Anywhere Road Anywhere Industrial Estate Near Anywhere Anywhere County Anywhere Anywhere PostCode			
CUSTOMER	Mr Smith		
VEHICLE	Volkswagen Golf 1996		
REGISTRATION No.	M350 BFK		
ODOMETER	66,650		
TEST TYPE	Non Turbo Engine		
ENGINE TYPE	CAT A		
PASS LIMIT	2.50		
OIL TEMPERATURE	85 °C		
Test No.	Smoke m ⁻¹	Speed min.	Time sec.
1	0.68	844	0.78
ZERO CHECK		0.02 m ⁻¹	
TEST TYPE	LIMIT	RESULT	Decision
FAST PASS	1.50 m ⁻¹	0.66 m ⁻¹	FAST PASS

NOTES:

- 1 See section 'Special Functions' for procedure to enter Garage name etc.
- 2 Oil temperature will be printed as ----- °C if the oil temp' probe is not fitted
- 3 Min. Speed engine speed when 'READY' comes on.
Max. Speed engine speed when 'READY' goes out
The speed columns will read 0 if an engine speed adaptor is not fitted.
- 4 Time taken to accelerate from minimum RPM to maximum RPM.
Column entries will read 0.00 if an engine speed adaptor is not fitted.
- 5 This test result is the average of tests 3 to 6 less the ZERO CHECK figure.
The result is a FAIL for the vehicle as the limit for NON TURBO engines is 2.50m⁻¹.

- 6 If the ZERO CHECK value is higher than 0.1m^{-1} , the statement 'WARNING, ZERO DRIFT' will appear in the print-out, and the Display box will flash 'CAL'.

OTHER TEST MODES

'Actual' Mode

This is a continuous opacity test mode facility, with particular application for engine test beds / chassis dynamometers etc.

To prepare the Smokemeter for the 'Actual' mode, see section 'Start-up Procedure'.



WARNING: During the test the smoke temperature in the sampling head must NOT exceed 150°C, or internal damage could occur. If 150°C is exceeded, a warning will be displayed in the Instruction Text box. The Smokemeter should be left switched on. Once the temperature has fallen below 125°C, the machine will re-calibrate and revert to the test mode previously selected.

The sampling pipe can be lengthened to allow adequate cooling of the smoke before it enters the sampling head. This extension pipe should be made of copper or stainless steel, and have a minimum internal diameter of 10 mm. However pipes should not be lengthened if free acceleration testing is to be carried out, since the change will affect Smokemeter response time and therefore the test results.

To carry out the test, use keys 'F1' and 'F2' to select 'Actual' mode and the preferred test units. The display will continuously show the smoke output of the engine at whatever speed and load is chosen.

If key 'F8' is pressed at any time during the test, the resultant print-out will show the results of the smoke being measured at that moment.

EXAMPLE - Typical 'Actual' mode print-out

ACTUALTEST		(Date & Time)
Morris Motors Station Street Anytown Anywhere Anypostcode		
CUSTOMER	Mr J Smith	
VEHICLE	Volkswagen Golf	
REGISTRATION No.	M350 BFK	
ODOMETER	66,650	
OPACITY	1.13 m⁻¹	
ENGINE SPEED	4510 RPM	*
OIL TEMPERATURE	80°C	*

(*)These will only be printed if readings are available.

'Peak' Mode

This opacity mode enables a single free acceleration smoke test to be carried out. To prepare the Smokemeter for the 'Peak' mode, see section 'Start-up Procedure'.

To carry out the test, fit the sampling pipe to the vehicle exhaust and then use keys 'F1' and 'F2' to select 'Peak' mode and the preferred test units. When 'READY' is illuminated, quickly depress the throttle to maximum.

Release the throttle as soon as 'READY' goes out and allow the engine to return to idle. The test result will be shown in the Display box.

A print-out of the displayed result can be obtained (if required) by pressing key 'F8'.

A new test can be started as soon as 'READY' is displayed.

NOTE: For convenience, the remote reset control DX210-14 (see DX250 'Operators manual') may be used instead of the 'READY' display on the screen. The control incorporates a 'READY' light.

EXAMPLE - Typical 'Peak' mode print-out

PEAK TEST		(Date & Time)
Morris Motors Station Street Anytown Anywhere Anypostcode		
CUSTOMER	Mr J Smith	
VEHICLE	Volkswagen Golf	
REGISTRATION No.	M350 BFK	
ODOMETER	66,650	
PEAK OPACITY	0.21 m⁻¹	
ENGINE SPEED MIN	842 RPM	
ENGINE SPEED MAX	5124 RPM	
OIL TEMPERATURE	98°C	

The engine speed will only be given if an engine speed adaptor is fitted.

Min Speed engine speed when 'READY' is displayed.

Max Speed engine speed when 'READY' goes out.

The oil temperature will only be given if an oil temperature probe is fitted.

CALIBRATION

Vehicle Inspectorate Calibration Checks

It is a Vehicle Inspectorate requirement that all makes of smokemeter used for M.O.T. testing are calibrated at intervals specified by them. Currently these are:

- A) A check by the operator at least once a week
Because the automatic calibration check described below occurs every time the Smokemeter is switched on there is no requirement for a weekly check.
- B) UKAS calibration once a year
A manual calibration check must be carried out by an approved technician; please contact the manufacturer for this service.

Automatic Calibration Check (electronic method)

The Smokemeter takes its smoke readings on a percentage scale; 0% denotes clean air (i.e. no smoke at all) and 100% denotes total obscuration of the light beam (i.e. totally black smoke). These two values are set automatically; the first by having the light beam in clean air and the second by switching the beam off so that the sensor sees no light at all.

A calibration check at a light level of 37.5% is then performed (equivalent to $k = 1.88\text{m}^{-1}$). No optical filters are used for this check; the light level is electronically generated by special circuitry (patented).

It is necessary for the calibration to be checked regularly since the 0% point (full light through chamber) can be affected by any soot which may land on the lenses during use. For this reason, the Smokemeter automatically checks its calibration at the start of each test or at any time that F6 (Set Zero) is pressed.

The tolerance on the 'mid point' calibration check is 35.9% to 39.0% (equivalent to $k = 1.88 \pm 0.1 \text{ m}^{-1}$). If it fails outside this limit, a warning is displayed and the 'MOT' test modes will be disabled. If this situation occurs - contact your service agent.

SPECIAL FUNCTIONS

Garage Name and Address

To enter your garage name and address on print-outs, proceed as follows.

1. Press key F5 (Special Functions).
The Special Functions display will appear.
2. Press key F5 (Garage name).
The Garage Name box will appear.
3. Use the Tab key to move the cursor into the Garage Name box.
4. Delete the previous entry if any, and type in the new requirement (10 lines maximum).

NOTE: a) Only the first 10 lines entered will appear on the print-out.
 b) A 'space' must be entered if a blank line is required.

5. When complete, press FI (OK) to exit Garage Name.
6. Press FI again to exit Special Functions.
7. Shut down and re-start the Smokemeter program to store the information just entered.

System Data

Operating system parameters and pass / fail limits etc. are preprogrammed into this area. It is not possible to amend this information without a password.

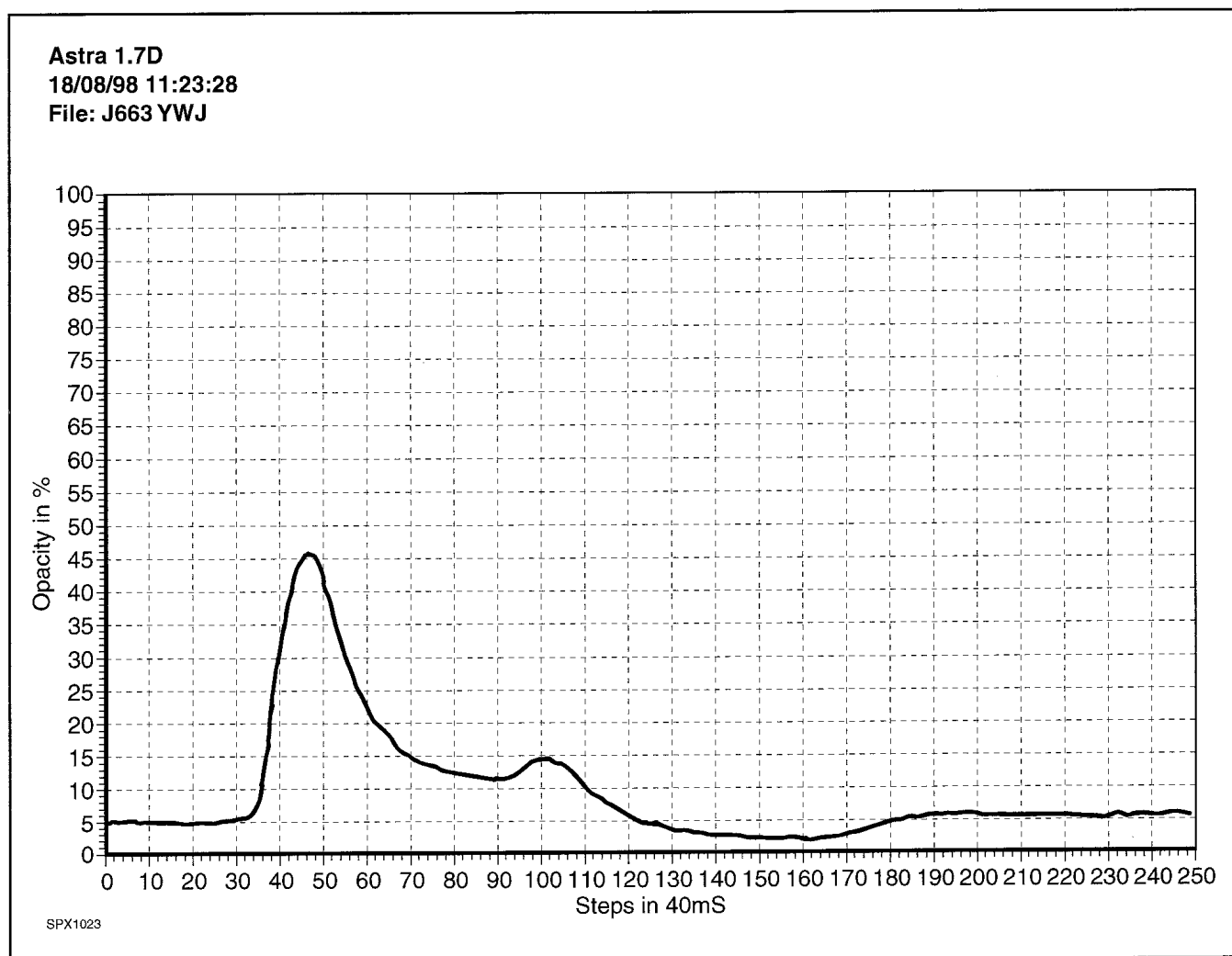
In the event that any modification is required, the manufacturer will provide the necessary service.

PLOT

The Plot mode provides a graph which will show the shape of the smoke curve (currently active in Peak mode only).

A graph can be originated as follows.

1. Carry out a Peak test.
2. Press 'F7' (Plot).
The smoke curve is now displayed. The file name may be amended and/or comments added if required.
3. Press 'F1' to close.
Press 'F5' to print.
Press 'F6' to save as an Excel file in c:\program files\DX250\peaklog



Typical vehicle smoke curve

CONVERSION CHART

Conversion chart for k, HSU, FSN and mg/m³.

(Extracted from MIRA Report No. 1965/10, Nuneaton 1965, AG Dodd and Z Holubecki.)

k coefficient of light absorption m-1	Hartridge Smoke Units HSU	Filter Smoke Number FSN	Mg/m ³	Cal % (*)
0,25	10	1,10	33	6.1
0,27	11	1,20	38	6.5
0,30	12	1,30	42	7.2
0,32	13	1,40	47	7.7
0,35	14	1,48	52	8.4
0,38	15	1,57	57	9.1
0,41	16	1,67	62	9.7
0,43	17	1,75	66	10.2
0,46	18	1,84	71	10.9
0,49	19	1,93	76	11.5
0,52	20	2,02	81	12.2
0,55	21	2,10	86	12.8
0,58	22	2,18	91	13.5
0,61	23	2,26	96	14.1
0,64	24	2,34	101	14.8
0,67	25	2,42	106	15.4
0,70	26	2,50	111	16.1
0,73	27	2,57	117	16.7
0,76	28	2,64	122	17.3
0,80	29	2,71	127	18.1
0,83	30	2,77	133	18.7
0,86	31	2,83	138	19.3
0,90	32	2,89	144	20.1
0,93	33	2,96	150	20.7
0,97	34	3,02	156	21.5
1,00	35	3,08	162	22.1
1,04	36	3,14	168	22.9
1,07	37	3,20	174	23.5
1,11	38	3,26	181	24.2
1,15	39	3,31	187	25.0
1,19	40	3,37	193	25.7
1,23	41	3,42	199	26.5
1,27	42	3,47	206	27.2
1,31	43	3,53	213	27.9
1,35	44	3,59	220	28.6
1,39	45	3,64	227	29.4
1,43	46	3,70	234	30.1
1,48	47	3,75	241	30.9
1,52	48	3,80	248	31.6
1,57	49	3,86	256	32.5

(*) i.e. optical path length, L = 0,25 m

NOTE: For the DX250, all scales except 'Cal %' include compensation for the temperature of the smoke. Hence the Smokemeter's conversion from 'Cal %' to the other units will only follow this table if the smoke temperature is 100°C

CONVERSION CHART

k coefficient of light absorption m ⁻¹	Hartridge Smoke Units HSU	Filter Smoke Number FSN	Mg/m ³	Cal % (*)
1,61	50	3,91	264	33.1
1,66	51	3,96	272	34.0
1,71	52	4,01	281	34.8
1,76	53	4,07	290	35.6
1,81	54	4,12	299	36.4
1,86	55	4,17	308	37.2
1,91	56	4,22	317	38.0
1,96	57	4,27	326	38.7
2,02	58	4,32	335	39.6
2,07	59	4,37	345	40.4
2,13	60	4,42	355	41.3
2,19	61	4,47	365	42.2
2,25	62	4,52	375	43.0
2,31	63	4,57	385	43.9
2,38	64	4,62	395	44.8
2,44	65	4,67	406	45.7
2,51	66	4,72	416	46.6
2,58	67	4,76	428	47.5
2,65	68	4,81	439	48.4
2,72	69	4,86	450	49.3
2,80	70	4,91	462	50.3
2,88	71	4,96	475	51.3
2,96	72	5,01	489	52.3
3,04	73	5,07	501	53.2
3,13	74	5,12	514	54.3
3,22	75	5,17	529	55.3
3,32	76	5,23	544	56.4
3,42	77	5,28	559	57.5
3,52	78	5,34	575	58.5
3,63	79	5,40	591	59.6
3,74	80	5,45	609	60.7
3,86	81	5,51	626	61.9
3,99	82	5,57	648	63.1
4,12	83	5,65	669	64.3
4,26	84	5,72	691	65.5
4,41	85	5,80	712	66.8
4,57	86	5,87	737	68.1
4,74	87	5,95	760	69.4
4,93	88	6,04	786	70.8
5,13	89	6,13	815	72.3
5,35	90	6,22	844	73.7

SPARES AND AFTER SALES SERVICE

Spare parts and service are available through our service agent. Initial contact should be made via the Crypton Product Support Helpline on +44(0)1278 436252. All spare parts purchases are subject to minimum order values.

DIESELTUNE Technology Limited

Crypton Technology Business Park, Bristol Road, Bridgwater, Somerset TA6 4BX
Tel: +44 (0) 1278 436200 Fax: +44 (0) 1278 450567 Email: sales@CryptonTechnology.com
Website: www.cryptontechnology.com

AFTER SALES SERVICE

Apart from the routine maintenance and adjustments stipulated in this manual the equipment must not be tampered with in any way. All further servicing must be carried out only by an engineer from an Authorised Agent. Failure to observe these conditions will invalidate the Guarantee.

On-Site Service / Overhaul / Spare Parts

If you require a Service Engineer to attend ON SITE, either due to an equipment fault, or for machine calibration, or if the equipment covered by this manual requires to be sent back for factory overhaul, or if you need spare parts, please contact our Product Support Helpline at the following number. Tel: +44(0)1278 436252 Fax: +44(0)1278 436238

Overseas

Service abroad is provided by the agent from whom your equipment was purchased.

Fully Comprehensive After-Sales Service

Call Dieseltune Helpline for details of local service agents. +44(0)1278 436225

Technical Information

Crypton provide information and contracts covering:

Car Data, Fault Code Information, Diagnostic Information, Software Support Contracts, Software Updates & Accessories